

*M. Zamir***RECEIVED**

DATE: April 21, 1992

Date of Inspection: April 14, 1992

TO: Sy Levine

Last Insp. Date: March 28, 1991
and Sep. 9, 1991FROM: *CK* Joseph Kotas

Region/District: 104

Facility: Sherwin Williams Co.
Chemical Coatings Division

I.D. #: 031 600 AHO

Address: 11541 S. Champlain, Chicago 60628

Contact/Title: Robert Martin/Env. Affairs Phone: 821-3102

Richard Martin/Coating Plant

Bill Lukes/Supt. Resin Plant

Jim Stoneburg/Prod. Mgr Resin Plant

1.0 Product-Process Description

Sherwin Williams Co. manufactures paints. The company consists of two divisions: The Chemical Coatings Division (which manufactures solvent based paint and, up until March 31, 1991, resins were manufactured) and the Chicago Emulsions Plant (which manufactures water based or latex paints). The CEP is referenced under I.D. #031 600 FHI. The Chemical Coatings Division is referenced with the original I.D. #031 600 AHO and is the subject of this memo.

The facility manufactures resins and paints. On an average, 9 to 11 million gallons of are paint manufactured per year at this plant. The facility is divided into two distinct operations: the Paint Plant and the Resin Plant.

1.01 Paint manufacturing plant. In this plant the resin and varnish manufactured in the resin plant is mixed with pigments and solvents to manufacture paint. The operations involve mixing of resin, pigment and solvents in mills, mixers and thin tanks, shade tanks for colorations and storing in product storage tanks. The following sources are included in the permit for the paint manufacturing plant.

1.011 Paint Department Product Tanks

<u>Nominal Capacity</u>	<u>Number of Tanks</u>	<u>Total Capacity by Size</u>
300 Gal.	12	3,600 Gal.
500 Gal.	13	6,500 Gal.
600 Gal.	1	600 Gal.
700 Gal.	10	7,000 Gal.
1,000 Gal.	30	30,000 Gal.
1,500 Gal.	34	51,000 Gal.
2,000 Gal.	34	68,000 Gal.
3,000 Gal.	13	39,000 Gal.
4,000 Gal.	8	32,000 Gal.
7,000 Gal.	3	21,000 Gal.
	158	258,700 Gal.

1.012 S-W Batch Mills vented to dust collector

<u>Mill Number</u>	<u>Working Capacity</u>
S-3, S-5, S-6 baghouse	200 gallon
S-7	150 Gallon
SA-2, SA-3, SA-4	50 gallon

1.013 High Speed Dispersers vented to dust collector

<u>Disperser Number</u>	<u>Maximum Capacity</u>	<u>Working Capacity</u>
C-3	75 Gal.	35-75 Gal.
C-24	140 Gal.	60-140 Gal.
*C-7, C-8, C-14, C-15, C-16	500-514 Gal.	200-500 Gal.
C-1, C-2, C-5, C-6 C-17, C-18, C-20, C-22	575-600 Gal.	200-600 Gal.
C-19	821 Gal.	430-821 Gal.
C-21, C-23	1600 Gal.	500-1600 Gal.
*C-7, C-14 and C-15 serve as pre-mixers for Continuous Bead Mills.		

High Speed Dispersers are also referred to as Cowles Mixers or Mills.

1.014 Continuous Bead Mills

<u>Mill Number</u>	<u>Type</u>	<u>Capacity</u>
SC-4	Sussmeyer Vertical	30 Gal.
SC-5	Sussmeyer Vertical	30 Gal.
SC-6	Sussmeyer Vertical	30 Gal.
SC-7	Sussmeyer Horizontal	120 Liter
SC-8	Sussmeyer Vertical	16 Gal.
SC-9	Coball	3.4 Liter
SC-11	Netsch Jon	33 Liter

1.015 Myers Mixers - vented to dust collector

<u>Mixer Number</u>	<u>Nominal Volume</u>	<u>Working Capacity</u>
MC-1	215 Gal.	60-165 Gal. (Portable)
MC-2	704 Gal.	225-600 Gal. (Fixed)

1.016 Paste Mixers - vented to dust collector

<u>Mixer Number</u>	<u>Maximum Working Capacity</u>
P-3	250 Gallon
P-4	250 Gallon
P-5	250 Gallon

1.017 Ball Mills

<u>Mill Number</u>	<u>Size</u>	<u>Gross Capacity</u>	<u>Maximum Paste Volume</u>
B-1	6'D x 8'L	1,639 Gal.	655 Gal.
B-3	6' x 8'	1,639 Gal.	655 Gal.
B-12	5' x 8'	1,639 Gal.	655 Gal.
B-4	5' x 6'	863 Gal.	345 Gal.
B-5	5' x 6'	863 Gal.	345 Gal.
B-6	5' x 6'	863 Gal.	345 Gal.
B-11	5' x 6'	863 Gal.	345 Gal.
B-7	4' x 5'	455 Gal.	182 Gal.
B-8	4' x 5'	455 Gal.	182 Gal.
B-9	21" x 38"	33 Gal.	16 Gal.

1.02 Resin/Varnish plant. In this plant the facility manufactures resin and varnish bases to be used in their paint manufacturing plant or sold to customers. The following sources are included in the permit for Resin/Varnish manufacturing plant.

** Note that as of March 31, 1991 the resin plant has ceased operation. They still use some of the storage tanks.

1.021

STORAGE TANKS

<u>Tank No.</u>	<u>Location</u>	<u>Capacity (Gallons)</u>
70	Bldg. 51-1	5,000
71	"	"
72	"	"
73	"	"
74	"	"
75	"	"
76	"	"
77	"	"
78	"	"
79	"	"
80	"	"
81	"	"
82	"	"
83	"	"
84	"	"
85	"	"
86	"	"
87	"	"
89	"	"
90	"	"
91	"	"
97	Bldg. 52-1	"
98	"	"
99	"	"

<u>Tank No.</u>	<u>Location</u>	Capacity (Gallons) --cont.
100	Bldg. 52-1	5,000
101	"	"
102	"	"
103	"	"
104	"	"
105	"	"
106	"	"
107	"	"
108	"	"
109	"	10,000
110	"	"
111	"	"
112	"	"
113	"	"
114	"	"
317-A	Bldg. 91-1	5,000
317-B	"	"
318-A	"	"
318-B	"	"
319-A	"	"
319-B	"	"
320-A	"	"
320-B	"	"
321-A	"	"
321-B	"	"
322-A	"	"
322-B	"	"
323-A	"	"
323-B	"	"
324-A	"	"
324-B	"	"
325-A	"	"
325-B	"	"
326	"	9100
327	"	"
328	"	"
329	"	"
330	"	"
331	"	"
332	"	"
333	"	"
335	"	"
336	"	"
337	"	"
338	"	"
339	"	"

340	Bldg 91.1	9100
341	"	"
342	"	"
343	"	"
344	"	"
345	"	"
346	"	"
347	"	"
357	"	11000
358	Bldg. 90-1	12507
359	"	"
360	"	"
361	"	"
362	"	11994
363	"	"
364	"	"
365	"	"
366	"	"
372	"	"
373	"	"
374	"	"
375	"	"
376	"	"
377	"	5,059
378	"	12,025
348-A	Bldg. 91-1	5,000
348-B	"	"
349-A	"	"
349-B	"	"
350-A	"	"
350-B	"	"
351	"	"
352-A	"	"
352-B	"	"
353	"	7,100
354	"	11,000
355	"	"
356	"	"
222	Bldg. 9-A	24,327
227	Bldg. 245-1	24,960
229	"	10,040
230	"	"
232	"	"
248	"	"
249	"	"
1	Bldg. 50-B	5,000
2	"	"
3	"	"
4	"	"
5	"	"
688	Yard A	10,361
689	"	51,200
691	"	"
696	"	15,800
697	"	13,500

<u>Tank No.</u>	<u>Location</u>	<u>Capacity (Gallons - cont.</u>
602	Bldg. 253-L	24,200
604	"	25,200
605	"	25,700
608	"	15,000
609	"	"
620	"	"
621	"	"
622	"	"
623	"	"
624	"	"
625	"	"
638	"	"
639	"	"
640	"	"
641	"	15,000
643	Yard A	58,857
644	Bldg. 253-L	102,731
610	Yard L	8,000
611	"	"
612	"	"
613	Yard L	8,000
614	"	"
616	"	"
617	"	"
618	"	"
142	Bldg. 50-4	7,000
143	Bldg. 53-4	8,826

1.032 Kettles and Reactors

<u>Kettle or Reactor No.</u>	<u>Location</u>	<u>Capacity (Gallons)</u>
K-1	Bldg. 50-3	3500
K-2	"	3500
K-6	"	1000
K-7	"	1000
K-8	"	1200
K-9	"	1500
R-1	Bldg. 65-3	5000
R-2	"	5000
R-3	"	1000
R-4	"	10000

1.023 Thinning and Prefilter Tanks

<u>Tank No.</u>	<u>Location</u>	<u>Capacity (Gallons)</u>
T-1	Bldg. 50-1	7,500
T-2	"	8,000
T-6	"	2,000
T-7	"	2,000
T-8	"	2,500
V-9	Bldg. 53-2	7,000
V-10	"	7,000
V-11	"	7,000
V-12	"	7,000
V-13	"	7,000

1.024 CONDENSERS

<u>Condenser No. on Reactors & Kettles</u>	<u>Location</u>	<u>Surface Area (Ft²)</u>
HR-1 on R-1	Bldg 65-4	400
HR-2 on R-2	"	"
HR-3 on R-3	"	207
HR-4 on R-4	"	-
HT-9 on V-9	Bldg. 53-2	104.7
HT-10 on V-10	"	"
HT-11 on V-11	"	"
HT-12 on V-12	"	"
HT-13 on V-13	"	"
HK1 on K-1	Bldg. 50-4	400
HK2 on K-2	"	"
HK6 on K-6	"	250
HK7 on K-7	"	"
HK8 on K-8	"	"
HT-1 on T-1	Bldg. 50-1	250
HT-2 on T-2	"	400
HT-6 on T-6	"	90
HT-7 on T-7	"	"
HT-8 on T-8	"	"

1.025 RECEIVING TANKS

<u>Tank No</u>	<u>Location</u>	<u>Capacity (Gallons)</u>
R-1	Bldg. 65-3	100
R-2	"	100
R-3	"	60
R-4	"	-
K-1	Bldg. 50-3	50
K-2	"	60
K-6	"	50
K-7	"	30
K-8	"	50
K-9	"	100

1.026

MIXING TANKS

<u>Tank No.</u>	<u>Location</u>	<u>Working Capacity (Gallons)</u>
2	Bldg. 11-1	480
3	"	500
4	"	500
5	"	1250
6	"	1250
7	"	1250
8	"	160
9	"	160
12	"	500
30	"	1500
21	Bldg. 9-1	1800
22	"	1800
23	"	4000
24	"	4000
1	Bldg. 58-2	1000
2	"	1000
3	"	1000
4	"	1000
5	"	1000
6	"	1000
7	"	450
8	"	300
102	Bldg. 58-3	3000

1.027

WEIGH TANKS

<u>Tank No.</u>	<u>Location</u>	<u>Capacity (Gallons)</u>
1	Bldg. 50-4	1,000
3	"	1,500
4	"	500
V-1	Bldg. 65-4	4,000
V-2	"	"
V-3	"	800

1.028

COMBUSTION EQUIPMENT FOR THE KETTLES

<u>ITEM NO.</u>	<u>LOCATION</u>	<u>Nominal Firing Rate</u>
CD-1	Bldg 48-2	2,000,000 BTU/hr
CD-2	Bldg 48-B	1,240,000 "
CD-6	Bldg 25	550,000 "
CD-7	Bldg 25	550,000 "
CD-8	Bldg 48-A	1,000,000 "

1.029

MISCELLANEOUS ITEMS

<u>ITEM</u>	<u>LOCATION</u>	<u>SIZE OR CAPACITY</u>
Glycol Scrubber GT-1	Bldg. 50-3	6' x 2'2" Dia.
Glycol Scrubber GT-8	Bldg. 50-3	9'6" x 1'6" Dia.
Resin Dust Collector	Bldg. 58-3	750 CFM
Eductor Kettle 1	Bldg. 50-4	6 x 6 Venturi
Hot Oil Expansion Tank	Ground Bldg. 48	250 Gallons
Hot Oil Dump Tank	"	600 Gallons
Heat Exchanger Kettle 1	Bldg. 50-2	300 Ft ²
Emergency Overflow Tank	Roof Bldg. 65	15,000 Gallons

2.0 **Purpose of Inspection**

Annual A2 Workplan.

2.1 **Compliance History**

5/20/91 CIL issued for apparent violation of Sections 215.630(a) and 9(a), 9(b) of the Act.

5/29/91 CIL issued for apparent violation of 215.301 and 9(b) of the Act.

7/01/91 Sherwin responded to above two CIL's with a letter. They were invited to Maywood for a meeting.

7/18/91 A pre-enforcement conference was held in Maywood. Jeryl Dezelich, Rob Martin, Julie Armitage and Joe Kotas attended. Technical issues were discussed. The company tentatively agreed to submit a permit application for fugitive emissions and to discontinue paint floor washing with solvent.

8/13/91 USEPA issued an NOV for violation of: 40 CFR 52.741(s)(4)(iii) pertaining to 90% coverage of mixing vessels; 40 CFR 52.741(s)(8)(i) for cleaning vessels with lids open; 52.741(w) for failure to test for VOC capture and control; and 40 CFR 52.741(5)(6)(ii) for lack of bottom fill technology on organic liquid storage tanks.

9/11/91 A meeting at USEPA in Chicago was held. Above technical issues were discussed. IEPA hand delivered a CIL to Sherwin for apparent violation of Section 218.626(b) and 215.122(b).

4/14/92 Sherwin-Williams had responded adequately and/or made changes to correct all violations except Section 218.626(b) and S-W's fugitive VOC emissions submittal for is presently in-house. Discussion of permit requirements for S-W's fugitive VOC submittal is attached. Since USEPA was pursuing the unresolved Section 218.626(b) in their enforcement initiatives the case was not referred to the A.G.

USEPA enforcement case has not been settled.

2.2 Observations--Discussion Related to Inspection

4/14/92 Inspection by J. Kotas:

Robert Martin, Environmental Director, was contacted by phone and an appointment was made for an inspection that same day, pursuant to annual A-2 Workplan requirements.

Regarding issues remaining from previous inspections, Mr. Martin was informed that his response to apparent violation of Section 218.626(b) was inadequate because this regulation makes no reference to vapor pressure. His response hinged on the fact that S_W does not store organic liquids with V.P. over 1.5 psi. The author presented Mr. Martin with a copy of Section 218.

Another matter brought up as a result of previous CILs was a permit application for fugitive VOM. The company was requested to provide same at a meeting of IEPA, S-W and attorneys for both parties. Mr. Martin stated that he had a consultant prepare a permit for fugitive VOM and that he believed it had already been submitted. (We have since received an "estimate of fugitive emissions" which is not in the form of a permit application. DLG will be contacted to determine the sufficiency of the document.)

Mr. Martin stated that the company had ceased manufacturing resin on March 31, 1992. Resin for paint mixing is now brought in by tank truck and drums.

Per Mr. Martin, the company has spent upwards of \$300,000 on fabricating new metal covers for mixers, blenders and 55 gallon drums. They instituted a new floor washing procedure that replaces solvent with Biosolve - a non-toxic mitigating and encapsulating agent. He added that a federal inspection team, NCIC, had just spent five weeks inspecting the chemical coatings plant.

We then commenced a physical inspection of the paint and resin plants. New metal lids have been installed on the tops of the mixing tanks. These are custom welded with mini access hatches for access to the vessel without opening the covers. The dust collection is now accomplished by opening another mini hatch in the cover which then ducts to the baghouse. This replaces the old system in which the duct was connected directly to the tank.

A small batch of solvent based gray paint was being blended in a 55 gallon drum. A ventilation hose slung over the drum was drawing VOM into the baghouse system. It did not have a cover on it. This is an apparent violation of Section 218.624(a) which requires tanks with a volume of more than 12 gal be equipped with a cover. Mr. Martin immediately took action to find out who was accountable for mixing the small batch without a cover.

The company changed their solvent dolly transfer carts to include a metal cover which is chained to the unit and 55 gallon drums containing waste paint were also covered.

2.2 Observations-Discussion Related to Inspection - continued

Mr. Martin pointed out a whitish haze on the floor claiming it was caused by their switch to Biosolve instead of solvent to wash the floor.

We observed the twin Torit baghouses on the roof. These, and all associated ductwork, were in excellent condition. There were some solvent odors observed in and on top of the paint mixing building however not nearly as strong as during the March 18, 1991 inspection. It appears their efforts have been effective.

The resin plant was shut down except for kettle #1 which reclaims solvent. Mr. Martin stated this operation had been performed there for years.

Four reactors and all filter presses were not in operation and appeared permanently shut down. Clean-up was underway.

3/28/91 Inspection by J. Kotas:

Robert Martin, Environmental Director, provided information and access to the facility. Four major areas of the plant were inspected: the paint plant, the resin plant, the property/geography (to address multi-media issues) and the Chicago Emulsions Plant (CEP). The CEP is now referenced under separate I.D. #031 600 FHI. The CEP produces only latex paints, the paint plant and resin plant produce only solvent based paints and are referred to as the Chemical Coatings Division.

Mr. Martin stated that Sherwin Williams had laid off 34 people last week and have gone to a 4 day/week production schedule due to economical factors brought on by the present recession.

Paint Plant

A tour of the facility began in the cluster of buildings known as the paint plant (see attached). Loading docks and dry storage areas were found to be relatively dust free and well organized. Some buildings are heated with gas fired space heaters which are included in their permit. All of the paints are manufactured in one building (#200). Paint is manufactured similar to following a recipe for a cake. Dry ingredients (TiO_2 , pigments) are dumped into one of 23 high speed dispersers on the third floor.

Liquids such as water, varnish and tri-ethyl amine (or ammonia), necessary to mix water and varnish, are added to the dispersers. A system of pipes is used to transport solvent throughout the plant. Hoppers are filled with the required amount of solvent and added to the dispenser. A paste is formed and pumped downward to the 2nd floor for thinning. Emissions from the dispersers are vented to one of two Torit dust collectors. These are effective in collecting particulates, however, there are no controls for VOCs. A solvent odor was apparent on the roof. No stack tests have ever been conducted at the facility.

2.2 Observations-Discussion Related to Inspection - continued

The second floor of Building #200 contains mixing tanks. Paste is thinned down by adding solvent and resins. These tanks are typically covered (except at the time when ingredients are added). Solvent odors were apparent on this floor even with the presence of adequate ventilation.

At one point a worker was observed transporting an over-filled dolly of solvent over to a tank in order to clean it, spilling several quarts along the way. He did not appear concerned. The manager of the paint plant, who was accompanying the author and Mr. Martin, broke off from the inspection to chastise the employee.

After thinning, the paint flows by gravity to the first floor for packing. Waste sludge and used paint filters were observed in drums destined for off site disposal.

Paint Plant Emissions Summary:

TSP emissions (mostly the pigment-Titanium dioxide) are well controlled by the Torit baghouses. VOC emissions are not controlled. Sources of VOC besides the blending tanks include wash-up solvents, spilled solvents and solvents dripping into catch basins servicing the many pipe connections.

Mr. Martin stated that VOC emissions were primarily from displacement of tanks.

The Paint Plant has its own steam plant consisting of two 800 BHP and one 450 BHP steam generators (Permit #87040037).

Resin Plant

Jim Stoneburg, Production Manager, accompanied the author and provided information regarding the resin plant.

The reactors are "closed systems" in which the resin ingredients are cooked. They are vented at the point after which H₂O and solvent vapors have had a chance to condense. Two of the reactors are equipped with scrubbers for particulate, however, they are not used. The reactors are equipped with rupture discs in case of over heating/over pressurizing. These are similar to emergency relief valves (only 1 disc has blown in the past two years). Overflow from such an event will be liquid designed to be captured by a "knock-out tank" on the roof.

A leaking solvent header was observed dripping solvent into a catch basin. The solvent header is similar to a paint spray booth and ducted by fan to the atmosphere. It is where hoses are connected to feed tanks from the intra-plant pipeline system.

A smell of hot "Dow/therm" oil was evident near one of the reactor vessels which was said to be over 60 years old.

Resin filter presses were next observed. These utilize diatomaceous earth and canvas to filter all the resin. These are hooded to a vent to capture vapors. They were not observed in operation.

2.2 Observations-Discussion Related to Inspection - continued

Resin Plant emissions summary:

The reactors are all older units with condensers cooled by city water. Efficiencies of 98% are claimed. Mr. Stoneburg stated that solvent emissions are 0.1% through the vent in line after condenser. Fugitive VOC emissions (such as observed at solvent header) appear more significant than claimed by the company.

Property/geographical inspection

Mr. Martin escorted the author on a tour of the property in order to explain water run off behavior as it pertains to Sherwin Williams and its neighbors.

Drainage patterns were observed distinctly, abetted by a downpour on the previous day. A ditch on the south property line of S-W was filled with orange water, most probably containing iron oxide. The source of the orange water was the former Inland Steel property located across 119 Street. This water runs east to a culvert before discharge into Lake

Calumet. At the eastern boundary of PMC Corporation a ditch containing dark brown colored water, presumably from run off from the PMC plant, was observed. This water flows south to the same culvert as above, before discharge into Lake Calumet.

Mr. Martin stated that years ago the boundary between Sherwin Williams and PMC had been graded so that water run off from each of the respective facilities would remain separate and identifiable.

From these findings it would be concluded that Sherwin Williams is not the source of the dark brown colored water nor the orange colored water currently discharging into Lake Calumet.

4/15/91 Follow up inspection by J. Kotas:

A follow up inspection was conducted in order to clarify any ambiguous issues in the Sherwin-Williams file and to review the EIS.

Robert Martin provided information. Permit #72100421 for Ester Mfg has been incorporated in their active permit (#82110038) for resin manufacturing. All sources have been transferred.

Fugitive Solvent Emissions

Emissions from clean up of tanks, fugitive solvent emissions and emissions from the filling of product into containers are not included in any of their active permits.

The author observed the tank cleaning process in which high or low flash naphtholene (lighter fluid) is used for the final rinse of the third floor primary mixers (dispersers). This is done manually by loading a dolly from a solvent line, then transferring to the tank. A brush is used and there is some spillage along the way. The vent to the baghouse is shut by knife valve to minimize solvent loss during the cleaning. Cleaning solvent is either transferred to the thin down tanks on the 2nd floor or sent to tanks #711 or #712 for reclamation (distilled in resin plant vessel #9).

2.2 Observations-Discussion Related to Inspection - continued

Throughout the inside of the building there are strong solvent odors. Windows on each floor are typically open. Fugitive emissions from spillage accompanying the numerous transfers of solvent and residue in solvent header catch basins go right out the window along with evaporation from mixing tanks.

The dual Torit baghouses control particulates from the mixers on the third floor. It is suspected that these baghouses are pulling VOCs from the mixing operation as well as serving to partially ventilate the building (that which doesn't go out the window). Mr. Martin stated that the company would perform a stack test on the two baghouse stacks to determine PM-10 and VOC emissions.

He also stated that he believed there weren't many VOC emissions because the dust collected is analyzed and typically does not contain solvent.

A caustic solution of 5% sodium hydroxide is used to clean mills from 2nd and 1st floor operations. This is pumped to a recirculation tank in the basement. This tank is heated allowing any solvent to evaporate and exit uncontrolled through a stack on the roof.

Besides the 60 year old condensing units attached to reactors in the resin plant, the Chemical Coatings Plant has no control equipment designed to control VOCs.

2.3 Summary of Meetings

06/08/91 Pre-enforcement mtg at Maywood.
09/11/91 Meeting at USEPA.

2.4 Telephone Call Reports

N/A

3.0 Emission Source Identification [S-W Batch Mills all controlled by Torit dust collection system: P No. 72100426]

<u>Mill Number</u>	<u>Working Capacity</u>
S-3. S-5. S-6 baghouse	200 gallon
S-7	150 Gallon
SA-2, SA-3, SA-4	50 gallon

3.01 Applicable Regulation/Effective Date

Section 212.322 for TSP emissions/Amended at 3 Ill. Reg. 184, effective September 28, 1979.
Section 218.625 for VOM emissions/Added at 12 Ill. Reg. 7311, effective April 8, 1988.

3.02 Process Flow Diagram

VOM
TSP (BH)
A-- S-W Batch Mills----- Storage and other operations
Total 7
Pigment
Vehicle
Solids
Solvents

3.03 Emission Calculations

Emissions calculations are based on information submitted by the Company in the operating permit application #72100426, submitted on 4-21-87.

Emissions are total from all seven mills.

	<u>AVERAGE EMISSIONS</u>					
	<u>Uncontrolled</u>		<u>Controlled</u>		<u>Allowable</u>	
	<u>lbs/hr</u>	<u>TPY</u>	<u>lbs/hr</u>	<u>TPY</u>	<u>lbs/hr</u>	<u>TPY</u>
TSP	10.0	11.2	0.01	0.01	1.8	2.0
HC	0.21	0.25	0.21	0.25	56.0	63.0
NOx	-	-	-	-	-	-
CO	-	-	-	-	-	-
SO ₂	-	-	-	-	-	-

3.1 Emission Source Identification [18 High Speed Dispersers - controlled by Torit dust collection system - P. No. 72100426]

<u>Disperser Number</u>	<u>Maximum Capacity</u>	<u>Working Capacity</u>
C-3	75 Gal.	35-75 Gal.
C-24	140 Gal.	60-140 Gal.
*C-7, C-8, C-14, C-15, C-16	500-514 Gal.	200-500 Gal.
C-1, C-2, C-5, C-6 C-17, C-18, C-20, C-22	575-600 Gal.	200-600 Gal.
C-19	821 Gal.	430-821 Gal.
C-21, C-23	1600 Gal.	500-1600 Gal.
*C-7, C-14 and C-15 serve as pre-mixers for Continuous Bead Mills.		

High Speed Dispersers are also referred to as Cowles Mixers or Mills.

3.11 Applicable Regulation/Effective Date

Section 212.322 for TSP emissions/Amended at 3 Ill. Reg. 184, effective September 28, 1979.
Section 218.624 for VOM emissions/Added at 12 Ill. Reg. 7311, effective July 1, 1991.

3.12 Process Flow Diagram

VOM
TSP (BH)
A----- 18 High speed dispersers ----- other operations
Pigment
Vehicle
Solids
Solvent

3.13 Emission Calculations

Emission calculations for all the dispersers combined. Basis:
Permit Files.

	AVERAGE EMISSIONS					
	Uncontrolled		Controlled Actual		Allowable	
	lbs/hr	TPY	lbs/hr	TPY	lbs/hr	TPY
TSP	3.0	1.3	Nil	Nil	6.7	3.0
HC	0.2	0.1	0.2	0.1	144.0	64.8

3.2 Emission Source Identification [10 Ball Mills controlled by Torit dust collection system. P. No. 72100426]

Mill Number	Size	Gross Capacity	Maximum Paste Volume
B-1	6'D x 8'L	1,639 Gal.	655 Gal.
B-3	6' x 8'	1,639 Gal.	655 Gal.
B-12	5' x 8'	1,639 Gal.	655 Gal.
B-4	5' x 6'	863 Gal.	345 Gal.
B-5	5' x 6'	863 Gal.	345 Gal.
B-6	5' x 6'	863 Gal.	345 Gal.
B-11	5' x 6'	863 Gal.	345 Gal.
B-7	4' x 5'	455 Gal.	182 Gal.
B-8	4' x 5'	455 Gal.	182 Gal.
B-9	21" x 38"	33 Gal.	16 Gal.

3.21 Applicable Regulation/Effective Date

Section 212.322 for TSP emissions/Amended at 3 Ill. Reg. 184, effective
September 28, 1979.
Section 218.624 for HC emissions/Added at 12 Ill. Reg. 7311, effective
July 1, 1991.

3.22 Process Flow Diagram

HC
TSP (BH)
A---- Ball Mills----- other operations
Pigment
Vehicle
Solids
Solvents

3.22 Emission Calculations

Emissions for all the 10 ball mills combined.
Basis - Permit Files.

	AVERAGE EMISSIONS					
	Uncontrolled		Controlled		Allowable	
	lbs/hr	TPY	lbs/hr	TPY	lbs/hr	TPY
TSP	3.0	3.6	Nil	Nil	1.7	2.0
HC	0.1	0.1	0.1	0.1	80.0	98.5

3.3 Emission Source Identification [Paste Mixers - controlled by Torit baghouse dust collection system - P. No. 72100426]

<u>Mixer Number</u>	<u>Maximum Working Capacity</u>
P-3	250 Gallon
P-4	250 Gallon
P-5	250 Gallon

[Myers Mixers - Controlled by Torit baghouse dust collection system]

<u>Mixer Number</u>	<u>Nominal Volume</u>	<u>Working Capacity</u>
MC-1	215 Gal.	60-165 Gal. (Portable)
MC-2	704 Gal.	225-600 Gal. (Fixed)

All the above mixers are vented to Torit dust collection system.

3.31 Applicable Regulation/Effective Date

Section 212.322 for TSP emissions/Amended at 3 Ill. Reg. 184, effective September 28, 1979.

Section 215.624 for VOM emissions/Added at 12 Ill. Reg. 7311, effective April 8, 1988.

3.32 Process Flow Diagram

HC
TSP (BH)
A----- Mixers----- Ball Mills----- other operations
Pigment
Vehicle
Solids
Solvents

3.33 Emission Calculations

Emissions for all the mixers combined
Basic: Permit files.

	AVERAGE EMISSIONS					
	Uncontrolled		Controlled		Allowable	
	lbs/hr	TPY	lbs/hr	TPY	lbs/hr	TPY
TSP	3.0	0.4	Nil	Nil	4.0	0.5
HC	0.1	-	0.1	Nil	40.0	5.0

3.4 Emission Source Identification [Continuous Bead Mills - P. No.
721004261]

<u>Mill Number</u>	<u>Type</u>	<u>Capacity</u>
SC-4	Sussmeyer Vertical	30 Gal.
SC-5	Sussmeyer Vertical	30 Gal.
SC-6	Sussmeyer Vertical	30 Gal.
SC-7	Sussmeyer Horizontal	120 Liter
SC-8	Sussmeyer Vertical	16 Gal.
SC-9	Coball	3.4 Liter
SC-11	Netsch Jon	33 Liter

3.41 Applicable Regulation/Effective Date

The Bead mills are sealed unit and have no vents.
No applicable regulations.

3.42 Process Flow Diagram

No vents
A--- Mixers----- Bead mills----- other operations
Paint paste
from mixers

3.43 Emission Calculations

No emissions exhausted from the bead mills.

3.5 Emission Source Identification [Product Blending & Mixing Tanks -
P.No. 721004261]

<u>Nominal Capacity</u>	<u>Number of Tanks</u>	<u>Total Capacity by Size</u>
300 Gal.	12	3,600 Gal.
500 Gal.	13	6,500 Gal.
600 Gal.	1	600 Gal.
700 Gal.	10	7,000 Gal.
1,000 Gal.	30	30,000 Gal.
1,500 Gal.	34	51,000 Gal.
2,000 Gal.	34	68,000 Gal.
3,000 Gal.	13	39,000 Gal.
4,000 Gal.	8	32,000 Gal.
7,000 Gal.	<u>3</u>	<u>21,000 Gal.</u>
	158	258,700 Gal.

The above tanks are all used for mixing paint. Tanks have removable covers and are vented inside the building. Only HC are emitted from these tanks.

3.51 Applicable Regulation/Effective Date

Section 218.623 thru 218.630 for HC emissions/Added at 12 Ill. Reg. 7311, effective date April 8, 1988.

3.52 Process Flow Diagram

HC
A--- Blending tanks----- Package----- Ship
Paint Paste
Solvents
Pigments

3.53 Emission calculations

AP-42 Table 5.10-1 lists VOC emissions as 1 to 2 percent of paint manufactured.

Paint production: 10 million gallons of paint per year.

VOC Emission Calculations:

Production 5000 gals/hr of paint

Operating hours per year = 2000 hrs

VOC emissions: 5000 gals/hr x 1.5 gal VOC emitted/100 gal. of paint = 75 gals.

VOC Density average = 7.36 lbs/gal

VOC emissions = 552 lbs/hr = 552 TPY

- 3.6 Emission Source Identification [4 Resin reactors R-1, R-2, R-3 and R-4: 1-1,000 gal, 2-5000 gal, & 1-10,000 gal. Each respectively controlled by condensers HR-1, HR-2, HR-3 and HR-4. Reactors R-1 to R-3 are steam heated and R-4 is oil heated. Listed in item 1.032 of this report. P. No. 82110038]

3.61 Applicable Regulation/Effective Date

This equipment is no longer in operation.

3.63 Emission Calculations

Zero emissions.

- 3.7 Emission Source Identification [Ten thinning and prefilter tanks. T-1 to 2, T6 to 8 and V-9 to 13 controlled by condensers HT 1-2, HT 6-13. Listed in item 1.033 of this report P.No. 82110038]

3.71 Applicable Regulation/Effective Date

Section 218.960 for HC emissions/Added at 12 Ill. Reg. 7311, effective July 1, 1991.

3.72 Process Flow Diagram

HC (Cond.)
Reactor----- Thinning and----- other operations
Prefilter tanks
Resin
Solvents

3.73 Emission Calculations

Emission Calculations from all 10 thinning tanks:

HC Emissions

Basis: Permit files

Operating hours = 4200 hrs

Actual HC emissions from all 10 thinning tanks=0.14 lbs/hr-0.3 TPY

Allowable HC Emissions = 80.0 lbs/hr 168.0 TPY

- 3.8 Emission Source Identification [Misc. storage tanks-Total 103, ranging in capacity from 5000 gal. to 102,731 gallons. 101 tanks less than 26,000 gal. capacity. One tank 51,200 gal. capacity used to store glyceryl Pthalate with vap.pressure 0.04 psia. One tank 102,731 gallons capacity used to store mineral spirits with vap. pressure 0.04 psia. Listed in item 1.031 of this report. P.No. 82110038.]

3.81 Applicable Regulation/Effective Date

Section 218.121 for HC emissions/Amended at 7 Ill. Reg. 1244, effective July 1, 1991.

3.82 Process Flow Diagram

N/A

3.83 Emission Calculations

Emissions included in the resin and paint manufacturing sources.

- 3.9 Emission Source Identification [Five varnish cooking kettles K-1, 2, 6, 7 & 8, all equipped with individual condensers. HK1, 2, 6, 7 and 8. Listed in item 1.032 of this report. P. No. 82110038]

3.91 Applicable Regulation/Effective Date

This equipment no longer is in operation

3.92 Process Flow Diagram

N/A

3.10 Emission Source Identification

[One solvent reclamation kettle w/n.g. burner]

3.101 Applicable Regulation/Effective Date

Section 218.980/July 1, 1991.

3.102 Process Flow Diagram

Waste solvent ----- VOC (condenser) Kettle ----- Clean solvent & pitch to off-site disposal

3.103 Emission Calculations

Emissions to be calculated upon receipt of revised resin plant permit.

3.11 Emission Source Identification [Three gas fired boilers. Maximum rated capacities: 1-1.338 MMBTU and 2-4.4 MMBTU]

3.111 Applicable Regulation/Effective Date

No applicable regulations.

3.112 Process Flow Diagram

N/A

3.113 Emission Calculations

Negligible emissions of TSP, SO₂, HC, NO_x and CO from these boilers.

4.0 Permit Status

P.No	Title	Granted	Expires
72100426	Paint manufacturing plant	4/26/88	3/31/93
82110038	Resin manufacturing plant	7/21/89	7/19/94
87040037	Nat.Gas fired boilers	5/8/87	4/16/92
*4/14/92	IEPA awaiting revised permit for resin mfg to reflect current operations.		

4.1 Standard Conditions

Facility in compliance with Standard Conditions of the operating permit.

4.2 Special Conditions

See attached.

In compliance.

4.3 New Source Review

No sources subject to New Source Review.

5.0 Fugitive Dust Program

The facility's fugitive dust program was accepted by the Agency on March 31, 1983. It does not include the program required of the CEP due to 3/28/91 inspection.

6.0 Opacity Observations

No opacity readings taken.

6.1 Visible Emission Observations

No visible emissions observed being emitted from the plant.

7.0 Emission Calculations

See Section 3.0 through 3.103 of this report for emission calculations.

7.1 Part 215 Organic Material Emission Calculations and Standards

See Section 3.0 through 3.103 of this report for emission calculations.

8.0 Equipment Standards

Facility is subject to Sections 215.122, 215.624 and 215.625. An apparent violation was observed 4/14/92 (see 2.2).

9.0 NSPS

No sources subject to NSPS.

10.0 NESHAP

No sources subject to NESHAP.

11.0 Stack Tests

No recent stack tests have been conducted.

11.1 Total Annual Plant Emissions (T/Y) Various Pollutants

Refer to EIS.

12.0 Section 9(a) Factors

No recent complaints filed with the Agency.

13.0 Multi-Media Factors

See 2.2.

13.1 Chemical Safety

Chemical Safety Contingency Plan was reviewed during 12-3-86 inspection by Ed Osowski and Cezary Krzymowski of the Agency.

14.0 Attainment/Non Attainment/Geographical Description

Facility is located in a non-attainment area for TSP and ozone. The facility is also located in a PM-10 study area.

NUMBER : 1

**WITHHELD
DOCUMENT**



CERTIFIED MAIL

708/531-5900

Return Receipt
#P 062 394 702

April 27, 1992

Robert C. Martin
Sherwin-Williams Co.
11541 S. Champlain
Chicago, Illinois 60628

RE: I.D. #031 600 AHO

Dear Mr. Martin:

This inquiry concerns noncompliance with the requirements of the Illinois Environmental Protection Act (Ill. Rev. Stat., ch. 111 1/2, pars. 1001 et seq) as observed by Joe Kotas on April 14, 1992. The apparent violations are as follows:

Section 218.624(a):

For operating an open-top 55 gallon drum to mix solvent based paint without a cover which completely covers the drum except for an opening no larger than to allow for safe clearance of a mixer shaft.

Section 218.626(b):

For operating stationary VOL storage containers with a capacity greater than 250 gallons without a submerged fill pipe or bottom fill.

Please submit in writing to the undersigned, within fifteen (15) days of receipt of this letter, the reason(s) for the apparent violations outlined above as well as the description of the steps which have been initiated to prevent any further recurrence of the above-cited violations. Failure to respond will be construed as an indication that you do not desire to pursue resolution of the violations.



217/782-2113

OPERATING PERMIT

PERMITTEE

The Sherrin-Williams Co.
Attn: Robert C. Martin
11541 S. Champlain
Chicago, IL 60628

RECEIVED
MAYWOOD OFFICE
AUG 01 1989
IL EPA/DAPC
STATE OF ILLINOIS

Application No.: 82110038I.D. No.: 031600AHOApplicant's Designation: RP-CON87-1Date Received: March 23, 1989Subject: Resin ManufacturingDate Issued: July 21, 1989Expiration Date: July 19, 1994Location: 11541 S. Champlain, Chicago, IL

Permit is hereby granted to the above-designated Permittee to OPERATE emission source(s) and/or air pollution control equipment consisting of 153 storage tanks, 10 prefilter and thinning tanks, 1 overflow tank, 3 resin reactors with condensers, 1 kettle (#1) with eductor, scrubber and condenser, 1 kettle (#8) with condenser and scrubber, 3 kettles (#2, #6 and #7) with condensers, 1 kettle (#9) with condenser and packed column, small natural gas heaters for all 6 kettles, 9 receiving tanks, 6 resin weigh tanks, 6 weigh tanks, 22 mixing tanks, 2 hot oil tanks, condensers for prefilter tanks and Zone Tank Reactor 4 and Auxiliaries as described in the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

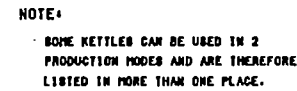
1. Records of VOM Leaks as required by 215.628 a, b and c shall be kept for two years and shall be made available to Agency personnel upon written or verbal request.

Terry A. Swettzer, P.E.
Manager, Permit Section
Division of Air Pollution Control

TAS:AMT:jmm/0376K/21

cc: Region 1 ^{AMT} 7-21-89

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DATE	THE SHERWIN-WILLIAMS CO.		
	CHEMICAL COATINGS DIVISION CHICAGO, ILL. 60643		
NOTATION	DESIGN ENGINEERING		
	RESIN MFG. DEPARTMENT FLOW DIAGRAM ILLINOIS E.P.A.		
DATE 14-JUN-68		SCALE	WORK
DRAWN BY		DESIGN BY	INITIALS

TANK NO.	LOCATION	EQUIPMENT NO.	WORKING CAPACITY	REMARKS
301	197-2	28-00005	300 Gallon	Paint Mfg.
302	197-2	28-00012	300 Gallon	Paint Mfg.
303	197-2	28-00006	300 Gallon	Paint Mfg.
304	197-2	28-00013	300 Gallon	Paint Mfg.
305	197-2	28-00007	300 Gallon	Paint Mfg.
306	197-2	28-00014	300 Gallon	Paint Mfg.
308	200-2	28-02731	300 Gallon	Paint Mfg.
309	200-2	28-02730	300 Gallon	Paint Mfg.
310	200-2	28-02729	300 Gallon	Paint Mfg.
311	200-2	28-02733	300 Gallon	Paint Mfg.
312	200-2	28-02735	300 Gallon	Paint Mfg.
313	200-2	28-02734	300 Gallon	Paint Mfg.
501	197-2	28-00001	500 Gallon	Paint Mfg.
502	197-2	28-00006	500 Gallon	Paint Mfg.
503	197-2	28-00002	500 Gallon	Paint Mfg.
504	197-2	28-00009	500 Gallon	Paint Mfg.
505	197-2	28-00003	500 Gallon	Paint Mfg.
506	197-2	28-00010	500 Gallon	Paint Mfg.
507	197-2	28-00004	500 Gallon	Paint Mfg.
508	197-2	28-00011	500 Gallon	Paint Mfg.
509	197-2	28-00071	500 Gallon	Paint Mfg.
510	200-2	28-02733	500 Gallon	Paint Mfg.
511	200-2	28-02732	500 Gallon	Paint Mfg.
512	200-2	28-02736	500 Gallon	Paint Mfg.
513	200-2	28-02737	500 Gallon	Paint Mfg.
601	197-2	28-00070	600 Gallon	

TANK NO.	LOCATION	EQUIPMENT NO.	WORKING CAPACITY	REMARKS
1047	197-2	28-00125	1000 Gallons	Paint Mfg.
1048	197-2	28-00128	1000 Gallons	Paint Mfg.
1049	197-2	28-00068	1000 Gallon	Paint Mfg.
1501	197-2	28-00017	1597 Gallons	Paint Mfg.
1502	197-2	28-00022	1597 Gallons	Paint Mfg.
1503	197-2	28-00027	1597 Gallons	Paint Mfg.
1504	197-2	28-00030	1597 Gallons	Paint Mfg.
1505	197-2	28-00031	1597 Gallons	Paint Mfg.
1506	197-2	28-00037	1597 Gallons	Paint Mfg.
1507	197-2	28-00041	1597 Gallons	Paint Mfg.
1508	200-2	28-00076	1597 Gallons	Paint Mfg.
1509	200-2	28-00077	1597 Gallons	Paint Mfg.
1510	200-2	28-00082	1597 Gallons	Paint Mfg.
1511	200-2	28-00096	1597 Gallons	Paint Mfg.
1512	200-2	28-00078	1597 Gallons	Paint Mfg.
1513	200-2	28-00117	1597 Gallons	Paint Mfg.
1514	200-2	28-00120	1597 Gallons	Paint Mfg.
1515	200-2	28-00118	1597 Gallons	Paint Mfg.
1516	200-2	28-00121	1597 Gallons	Paint Mfg.
1517	197-2	28-00127	1597 Gallons	Paint Mfg.
1518	200-2	28-00119	1597 Gallons	Paint Mfg.
1519	200-2	28-00122	1597 Gallons	Paint Mfg.
1520	197-2	28-00072	1500 Gallons	Emulsion Mfg.
1521	197-2	28-00073	1500 Gallons	Paint Mfg.
1522	197-2	28-00074	1500 Gallons	Paint Mfg.
1523	197-2	28-00069	1500 Gallons	Paint Mfg.
1524	200-2	28-00545	1597 Gallons	Paint Mfg.
1525	200-2	28-00546	1597 Gallons	Paint Mfg.
1526	200-2	28-00546	1597 Gallons	Paint Mfg.
1527	200-2	28-00547	1597 Gallons	Paint Mfg.
1528	200-2	28-00080	1597 Gallons	Paint Mfg.
1529	200-2	28-02726	1574 Gallons	Paint Mfg.
1530	200-2	28-02725	1574 Gallons	Paint Mfg.
1531	200-2	28-02728	1574 Gallons	Paint Mfg.
1532	200-2	28-02727	1574 Gallons	Paint Mfg.

<u>ITEM</u>	<u>LOCATION</u>	<u>DESIGNATION</u>	<u>SIZE</u>
Tank, Thin & Shade	197-2	2029	2,000 Gallons
Tank, Thin & Shade	197-2	2030	2,000 Gallons
Tank, Thin & Shade	197-2	2031	2,000 Gallons
Tank, Thin & Shade	197-2	2032	2,000 Gallons
Tank, Thin & Shade	197-2	2033	2,000 Gallons
Tank, Thin & Shade	197-2	2034	2,000 Gallons
Tank, Thin & Shade	197-2	3050	3,000 Gallons
Tank, Thin & Shade	197-2	3051	3,000 Gallons
Tank, Thin & Shade	197-2	3052	3,000 Gallons
Tank, Thin & Shade	197-2	4001	4,000 Gallons
Tank, Thin & Shade	200-2	4002	4,000 Gallons
Tank, Thin & Shade	200-2	4003	4,000 Gallons
Tank, Thin & Shade	197-2	4004	4,000 Gallons
Tank, Thin & Shade	197-2	4005	4,000 Gallons
Tank, Thin & Shade	197-2	4006	4,000 Gallons
Tank, Thin & Shade	197-2	4007	4,000 Gallons
Tank, Thin & Shade	200-2	4008	4,000 Gallons

AFFIDAVIT

"I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED
AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN AND,
BASED ON MY QUESTIONING OF THOSE INDIVIDUALS IMMEDIATELY
RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE
SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE."



R.C. MARTIN,
DIRECTOR - ENVIRONMENTAL SERVICE
CHICAGO CHEMICAL COATINGS MANUFACTURING
CONSUMER DIVISION

29 Oct 91
(DATE)